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PIT & QUARRY

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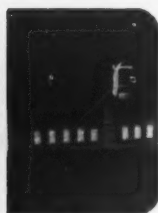
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ON THIS MONTH'S COVER

Oregon Portland Cement's new 500,000 tpy plant, located in eastern Oregon, is first cement plant built in the Northwest since 1967. Rotary kiln is equipped with 4-stage preheater and satellite coolers. See pg. 68.

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A
Year of
Bold Action
and
Record Profit



Pit & Quarry's annual financial reports round-up:

- Record revenues in 1979 for cement, concrete, aggregates
- Sun Belt states offer growing markets for construction minerals
- Mergers continue changes in corporate alignments
- Construction upswing expected by year-end

High demand levels last year for cement, concrete, and construction aggregates led to record revenues for most of the construction minerals* producers listed in this PIT and QUARRY survey of 1979 annual reports.

**The minerals and mineral products designated "construction minerals" in this report, and average percentages of their use in construction are: portland cement, 100%; masonry cement, 100%; calcined gypsum, 100%; expanded clay, shale and slate, 100%; iron blast furnace and steel slag, 98%; sand and gravel, 97%; pumice, 87%; crushed stone, 75%; exfoliated vermiculite, 65%; dimension stone, 60%; expanded perlite, 35%; crude gypsum, 30%; fly ash, 13%; lime, 6%.*

Because of the ongoing slump in residential and nonresidential construction, cement consumption in the United States is expected this year to be down between 8 and 10%.

Construction

Total new construction put in place in the United States in 1979 amounted to \$227 billion in current dollars, equivalent to a calculated \$114 billion in constant 1972 dollars. Compared with 1979 physical volume, a 9% drop is predicted for 1980 by the Department of Commerce ("U.S. Industrial Outlook," January 1980).

Compared with the peak physical volume of 1973, the forecast said, new construction activity as a whole should be one-fifth lower in 1980.

Housing start forecasts for 1980 now range between 1.4 million to somewhat below 1 million, compared with 1.75 million in 1979 and the record 2 million in 1978. Construction contracting this year is expected to total \$155 billion, about 7% below the 1979 amount, according to a forecast issued in April by the F. W. Dodge Division of McGraw-Hill Information Systems Co.

Cement

Shipments of finished portland cement from plants in the United States (including Puerto Rico) in 1979 amounted to 84.9 million short tons. This was about the same as in 1978 and about 4.3% lower than the 1973 record. The 1979 value of hydraulic (84.5% finished portland; 5.5% masonry) cement reached \$3.9 billion, resulting from an average price rise of 12% for the year.

Imports of cement and cement clinker for consumption in the United States in 1979 reached a record 9.4 million tons, 42% above the 1978 total of 6.6 million tons and 40% above the 1973 record of 6.7 million tons. The imports constituted 11.1% of plant shipments in 1979. Major supplying countries included Canada, Japan, Mexico, the Bahamas, the United Kingdom, France, Spain, Norway, and Peru. As usual, cement exports were insignificant amounting to 125,000 tons in 1979. Shipments were made to nearby locations in Canada, Mexico, and the Caribbean.

According to a preliminary Department of Commerce estimate, the value of cement industry shipments is expected to rise 5% to \$4.1 billion this year, despite the projected volume drop, because of price increases. Average values for a ton of portland cement rose from \$31.09 in 1975 to an estimated \$46 in 1979. Prices for May 1980, as quoted in *Engineering News-Record*, ranged from \$47.40 per ton in Baltimore to \$64.00 in Chicago and \$68.86 in Los Angeles.

Percentage of portland cement 1979 shipments by type of customer were: ready-mixed concrete producers, 67%; concrete products (block, brick, pipe, precast, prestressed products) manufacturers, 14%; building material dealers, 8%; highway contractors, 5%; other contractors, government agencies, and miscellaneous uses, 6%. Masonry cement shipment in 1979 amounted to 3.81 million tons, compared with 4.18 million in 1978. Prices of masonry cement (in 70-lb. bags) in May 1980, as noted in *Engineering News-Record*, ranged from \$2.54 in Atlanta to \$4.10 in Chicago.

Fifty-seven companies operated 162 plants in 40 states and two companies operated two plants in Puerto Rico in 1979 for the production of portland, masonry, and calcium aluminate cements. Annual real growth in cement shipments has been projected at 2 to 3% for the next 5 years. Regionally, the southern states are expected to continue to have an expanding share of the cement market.

Aggregates

Sand and gravel—An estimated total of 1 billion tons of sand and gravel, valued at about \$2.5 billion, was reported sold or used in the United States in 1979. Construction sand and gravel constituted 97% of the uses, and industrial applications accounted for the other 3%. Construction allocations were 43% for aggregate for portland cement concrete; 15% for asphaltic concrete aggregate; 22% for road bases and coverings; 17% for fill; and 3% for railroad ballast, snow and ice control, etc. Demand for sand and gravel is forecast to increase at an annual rate of 1.6% for the next 5 years.

Crushed stone—Output of crushed stone in 1979 is estimated at 1.037 billion tons valued at \$3 billion. About 75% of production was used for construction, including dense-graded road-base stone, concrete aggregate, road stone, cement, bituminous aggregate, etc. Demand for crushed stone is expected to grow at an annual rate of 3% for the next 5 years.

Dimension stone—Production of dimension stone in 1979 was estimated at 1.39 million tons, valued at \$125 million. Demand is not expected to grow in the future.

Slag—About 37 million tons of iron and steel slags were sold or used in the United States in 1979. Construction uses accounted for nearly all of the output, including incorporation of the slag into road bases, fill, asphaltic concrete aggregate, and portland cement concrete aggregate.

Pumice and volcanic cinder—Mine production of pumice and volcanic cinder in the United States amounted to an estimated 4.856 million tons in 1979. Total estimated value of the amount sold or used was \$16.5 million. The major uses of pumice and volcanic cinder combined were for road construction (47%) and concrete aggregates and admixtures (40%). Demand for the next 5 years is expected to increase at an annual rate of 4%.

Perlite—Domestic mine production of perlite in 1979 was estimated at 950,000 short tons valued at \$15.7 million. Crude ore came from 13 mines operated by 12 companies in 6 western states. The ore was expanded by 45 companies at 80 plants in 33 states. Demand for perlite is expected to increase at an annual rate of about 3.4% for the next 5 years. In 1979, 45% of production was used for insulation board, plaster, and concrete aggregate.

Vermiculite—Mine production of vermiculite sold or used in the United States in 1979 was estimated at 349,000 tons, valued at \$22 million. Most of the crude vermiculite was shipped to 49 exfoliating plants in 29 states. The major uses for exfoliated vermiculite were: insulation, 30%; lightweight concrete aggregate, 25%; plaster and cement aggregate, 10%; and agriculture, 33%. Demand for vermiculite is expected to increase at an annual rate of about 5% for the next 5 years.

Gypsum

Output of crude gypsum mined in the United States was estimated at 14.3 million tons, valued

at \$101 million dollars. Imports, including anhydrite, amounted to 7.6 million tons. Apparent consumption (crude gypsum + by-product gypsum + imports - exports + industry stock adjustment) amounted to 22.5 million tons. Of the total supply of crude gypsum (including 700,000 tons of by-product gypsum), 16.7 million tons (74.2%) was calcined for gypsum products, and 5.8 million tons (25.8%) was used mainly as a cement retarder or as agricultural land plaster. The calcined gypsum was sold as prefabricated products or as plaster. Sales of gypsum for cement use was 4.2 million tons (19%). Demand for gypsum is expected to increase at an annual rate of about 2.7% through 1985.

Lime

Construction uses accounted for 6% of the estimated 20.39 million tons of lime produced in 1979. The construction applications include soil stabilization, mason's lime, and finishing lime. Demand for lime is expected to increase at an annual rate of about 3.9% for the next 5 years.

Fly ash

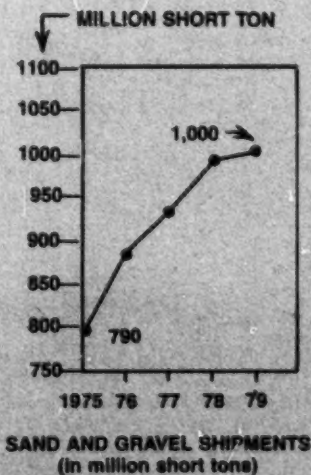
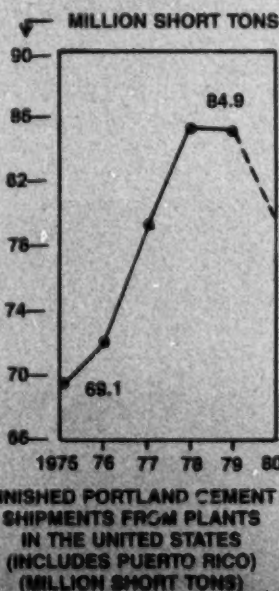
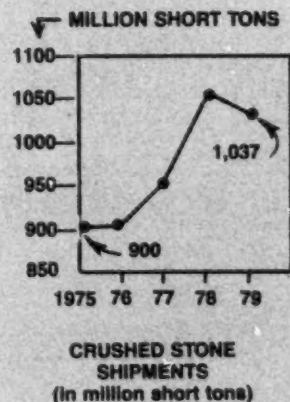
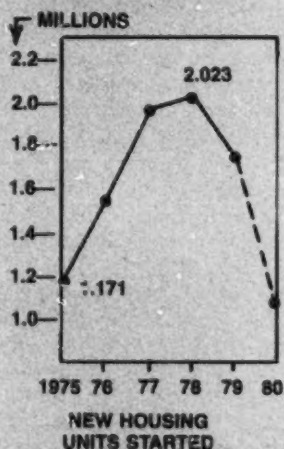
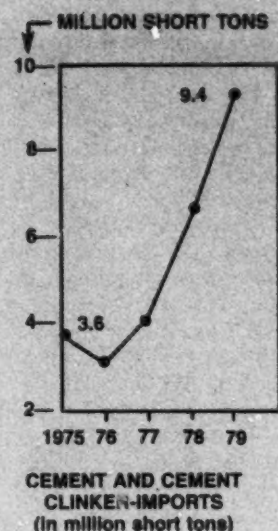
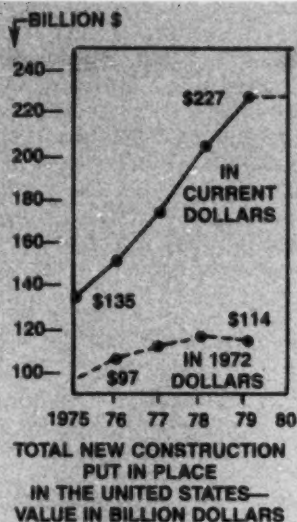
This by-product of electrical energy generation in coal-fired power stations can be considered the sixth most abundant solid mineral resource in the United States. About 13% of an estimated 50 million short tons of fly ash collected in 1979 was used in construction applications.

Fly ash use as a construction mineral includes incorporation in Type 1-P cement; mix with raw material for producing cement clinker; lightweight aggregate; stabilization and roads; fill for roads, reclamation, and ecology dikes; and filler in asphalt mix.

Concrete

Ready-mixed concrete producers accounted for 67% of the 1979 cement shipments in the United States. Since 1 cu. yd. of ready-mix requires about 1/4 of a short ton of cement, the 1979 output is estimated at 228 million cu. yd. with an estimated value of \$7.73 billion.

For 1980, the "U.S. Industrial



Outlook" predicted that the value of shipments for the ready-mixed concrete industry should be about \$8.85 billion, about 15% more than 1979 shipment values. This value, the forecast notes, reflects a substantial price rise and about a 6% drop in physical volume of shipments.

As quoted in the May 8, 1980 *Engineering News-Record*, ready-mix prices per cu. yd. ranged from \$37.00 (3,000 psi) and \$42.75 (5,000 psi) in Philadelphia to \$49.00 and \$55.00 in San Francisco. The Department of Commerce forecast in the "U.S. Industrial Outlook" is for a 2.1% annual increase in shipment volume between 1979 and 1984. This represents a slightly larger growth rate than the 2% estimated for construction activity, but is somewhat less than the 2.3% for cement.

Concrete block and brick shipments in 1979 totaled an estimated \$1.34 billion. The Department of Commerce forecast a 7% drop in volume for this year, but a 7% gain in value of industry shipments to \$1.57 billion, resulting from anticipated price increases. Industry shipments in the 1979-1984 period are anticipated to rise 1.9% in real terms on an annually compounded basis.

For concrete products encompassing concrete pipe, precast and

prestressed concrete, and dry concrete mixes, the value of shipments in 1979 amounted to an estimated \$3.81 billion. The Department of Commerce has estimated that the value would reach about \$4.34 billion in 1980, equivalent to a 7% value rise, but a 4% volume drop. A 3.2% compound annual growth rate in volume of output is anticipated in the next 5 years.

Corporate re-alignments

A number of cement and construction minerals companies were acquired by, or merged with, U.S. conglomerates or foreign interests in the past 18 months. Genstar, Inc., headquartered in Montreal, Quebec, acquired The Flintkote Co. as a wholly owned subsidiary in February 1980, extending its participation in building materials, cement, and construction markets in North America. While Genstar's head office will remain in Montreal, the company has established executive offices in San Francisco. Most of the company's Canadian enterprises are in the four western provinces. Operations in the United States are concentrated in the Sun Belt states from the West Coast along the country's southern tier.

By the end of 1980, Genstar will have four cement plants operating in western Canada (one in each province) with a combined capacity of approximately 3 million short tons. The Building Materials group gives the following plant count for 1979 operations in western Canada (British Columbia, Alberta, Saskatchewan, and Manitoba): ready-mix

concrete, 25; concrete block, 8; concrete pipe, 8; aggregate, 16; precast concrete, 8; gypsum wallboard, 3. A total of 36 pits and quarries were operated. Twelve asphalt plants were located in the four western provinces.

Flintkote's plant count includes four cement plants, seven lime-producing plants, six gypsum products plants, and a number of crushed stone, sand and gravel, bituminous concrete, and portland cement concrete plants. The company also produces roofing products, floor tile, paperboard, and insulation board products. Other activities include contract and construction services.

Record revenues were produced by Genstar's Building Materials group in 1979. The company feels that the outlook for 1980 is favorable and that the diversity of company activities should cushion the effects of a downturn in residential housing starts. The Genstar annual report notes, however, that all indicators point to little real growth in the U.S. or Canadian economies in 1980; expectations are that no measurable improvement will take place before the latter half of the year.

Gifford-Hill & Co., Inc. acquired Amcord, Inc. in December 1979. Gifford-Hill has planned its geographical growth to serve the rapidly expanding markets of the Sun Belt states. Almost all of G-H's Construction Materials plant locations are concentrated within these states. Before purchase of Amcord, Inc., G-H operated two cement plants—one in Texas, the other in South Carolina. The purchase of Amcord late in 1979 added five cement plants located in California, Arizona, Michigan, and Pennsylvania. G-H plans to sell the Michigan and Pennsylvania facilities. After divestment of the plants, G-H will have approximately 4 million tons of annual capacity in the Sun Belt.

Aggregates (sand, gravel, crushed stone, slag) are produced by G-H from 10 plants located in Texas, five plants in Louisiana, and two plants in Arkansas. Asphalt is produced at two aggregate plants. Fly ash is obtained from power plants in Cason, Tex. and Gentry, Ark. The company

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Cement, Concrete, Aggregates—1979 Values

(in billion dollars)	
Hydraulic cement	\$ 3.91
Crushed stone	2.81
Sand and gravel	2.50
Concrete	12.88
	\$22.10

Cement Consumption—by PCA Region

(in million short tons)

Region	1975	1976	1977	1978	1979	1980 (estimate)
Eastern	12,647	12,181	12,560	14,007	13,587	12.60
Great Lakes-Midwestern	12,420	13,484	14,088	14,771	14,188	13.24
Southeastern	10,142	10,775	12,181	13,888	13,148	12.25
North Central	4,787	5,217	5,288	5,384	5,328	5.04
Rocky Mountain-Northwest	5,181	5,886	6,383	6,848	7,111	6.73
Pacific-Southwest	5,747	6,123	10,720	11,383	12,376	10.82
South Central	13,081	14,082	15,952	17,215	17,172	16.30
Total	67,025	70,888	77,080	88,290	86,280	75.98

Source: "U.S. Cement Consumption Forecast," Portland Cement Association, April 1980 (does not include Puerto Rico)

(continued from page 130)

operates 22 ready-mixed concrete plants in Texas and Louisiana, seven concrete pipe plants in Texas, and one in Louisiana. Concrete chemicals are manufactured in three plants located in North Carolina, Texas, and Utah. Late in 1979 and early in 1980, Gifford-Hill sold its prestress operations in North Carolina and Georgia and is out of this business.

The Construction Materials group again posted record revenues and earnings from operations in 1979. G-H notes that, in terms of construction activity, the Sun Belt continues to outpace the nation by a significant margin. The company feels this performance should be maintained in 1980 even though the national economy slips into recession.

In line with intentions to strengthen activities in cement, aggregates, and related products, Lone Star Industries, Inc. has increased its acquisitions and joint venture programs. In June 1979, Lone Star purchased the

outstanding stock of San-Vel Concrete Corp., a Massachusetts manufacturer of precast/prestressed concrete products. Portland Cement Company of Utah was acquired in September 1979. In December 1979, Lone Star agreed to acquire the Dixon, Ill. cement plant of Medusa Corp., a subsidiary of Crane Co. In February 1980, Lone Star and OKC Corp. reached an agreement for sale of OKC's Pryor, Okla. cement facility. In April 1979, Lone Star and France's Lafarge cement group combined their cement operations in Brazil to form a new joint venture.

During 1979, Lone Star sold its Building Centers operations. These operations included wholesale lumber, distribution facilities, combination retail/contractor building materials outlets, and retail home care centers. Although the Building Centers operations were profitable, the company felt that the increasing capital requirements in both the building centers and the cement/aggregate/concrete industries made it necessary to choose between them to maintain growth and leadership. After reviewing the current and prospective return on investment in both businesses, the company decided the outlook favored cement, aggregates, and related products where strong market conditions are seen for some time to come.

Lone Star claimed the position of being No. 1 U.S. producer of cement, sand, and gravel in 1979. Last year, the company mined, processed, and sold 38 million tons of aggregates from 43 major sand and gravel deposits and stone quarries in 8 states. The company also produced and marketed 4 million cu. yd. of ready-mix and 35 million concrete block in 1979.

Domestic operations include 11 cement plants with an annual rated capacity of 7.313 million short tons; 43 aggregate plants and quarries; 55 ready-mix plants; 12 concrete block plants; 2 concrete pipe plants; 3 prestressed concrete plants; and 2 precast concrete plants.

The annual report optimistically states: "The outlook

for Lone Star in 1980—despite varying forecasts for the U.S. economy—is for another year of growth in sales and earnings." The company's income from continuing operations in 1979 was a record \$56 million, 84.2% above the previous record level of \$30.4 million established in 1978.

To balance its varied business activities and increase its participation in the fast-growing Sun Belt area, as the Dravo Corp. annual report notes, the company merged with Southern Industries in June 1979. Southern Industries operates throughout the Gulf Coast region from Florida to Texas. Its products include lime, shell, sand and gravel, slag, and construction materials. According to Dravo, Southern Industries' lime production, together with Dravo's Maysville, Ky. lime operation, makes Dravo the second largest producer of lime in the United States.

In 1979, the National Gypsum Co. divested itself of its Bronx, N.Y. gypsum plant, its Gibsonburg, Ohio lime plant, and its cement operations, since these do not fit in with the company's long-range corporate objectives. The cement division was sold to General Dynamics Corp. The division includes mills in Alpena, Mich. and Evansville, Pa., and related storage and distribution facilities.

National Gypsum says it believes housing and construction will be strong markets in the decade of the 1980's, and plans are being put in place to enable the company to take full advantage of the opportunities. Particular emphasis is being placed on consumer-oriented products and on greater participation in the repair and remodeling markets, residential and nonresidential. Each of these markets, the company estimates, should be in excess of \$40 billion in 1980 and continue to grow each year. However, planning does not limit projected growth and diversification to the construction markets.

Moore McCormack Resources, Inc., a Stamford, Conn. steamship and mine management corporation, acquired Florida Mining and Materials Corp. in 1979. Florida Mining's activities include pro-

(continued on page 143)

(continued from page 138)

duction of cement, aggregates, ready-mixed concrete, concrete block, and precast/prestressed concrete.

The Koppers Co., Inc. increased its holdings in 1979 with acquisition of the Ivy Corp. of Atlanta, Ga., and The McMichael Corp. Ivy operates six quarries in Georgia and a concrete reinforcing and accessories business with plants in Florida, Georgia, and Texas. McMichael operates two quarries, a concrete sand plant, and ready-mixed concrete and bituminous concrete plants—all in the Tulsa, Okla. area.

Foreign investors continue to enter the U.S. cement industry (see PIT & QUARRY, January 1980, p. 89, "Recent foreign acquisitions of U.S. cement companies"). As noted, the Genstar/Flintkote merger was completed in February 1980. United States Steel is selling its Universal Atlas Cement Division to Heidelberger Zement A.G. of West Germany. The San Antonio Portland Cement Co., with a 470,000-tpy wet process plant in San Antonio,

Tex., was acquired last year as a joint venture by Presa S.P.A. Cementeria di Robilante of Italy and Cementwerke Vigier A.G. of Switzerland. River Cement Corp., subsidiary of Missouri Pacific Corp., sold its Festus, Mo. dry process plant in 1979 to IFI International S.A., a European holding company based in Turin, Italy. OKC Corp. is selling its Louisiana cement division to the Swedish concern, Cementa, which is a unit of Euroc, a European holding company. According to the Portland Cement Association, about 20% of U.S. capacity is foreign-owned.

Divestitures, required by the government, and a bankruptcy also have changed the cement industry's corporate configuration in the past year. To meet the requirements of an agreement with the Federal Trade Commission, Medusa Corp. is selling its Dixon, Ill. cement plant. As noted, the purchaser is Lone Star Industries.

Penn-Dixie Industries Inc., in April of this year, filed for protec-

tion under Chapter 11 of the Federal Bankruptcy Act. Under Chapter 11, the company continues to operate but seeks court protection from creditor lawsuits while it tries to work out a plan for settling its debts.

Penn-Dixie's cement division operates plants in Nazareth, Pa.; Richard City, Tenn.; Kingsport, Tenn.; West Des Moines, Iowa; West Winfield, Pa.; and Petoskey, Mich. The company has agreed to sell its Nazareth plant to Coplay Cement Co., which is based in Nazareth. Coplay is a subsidiary of the French corporation, Societe des Ciments Francais.

First quarter reports

Traditionally, interim financial reports for the first three months of the year show low sales for cement, concrete, and construction minerals. The blame generally is attributed to winter weather conditions. But this year's reports note an unusually mild season so, in many areas, the normal weather-related slowdown did not develop.

Because construction was able to continue and due to price increases, a number of cement companies reported high, even record, net sales for the first quarter of 1980. The outlook for the balance of the year was described as "cloudy" in the reports. General Portland, in announcing that its performance in the first quarter was the best first quarter performance in the company's history, went on to say: "The improvement in the first quarter should not be taken as being representative of what the company's full-year performance will be. New starts in home-building have already dropped dramatically, and we may soon feel the same trend in other areas of construction. As a result, we continue to expect that cement consumption and our profits will decline during 1980."

United State Gypsum, in its first quarter report for the three months ended March 31, 1980, announced a net sales record for the quarter. Net sales increased 5.8% over the corresponding period in 1979, but net earnings declined 20%. Here's U.S.G.'s explanation: "While sales were higher for the quarter, and earnings held up well in January and February, the impact of the high cost of money and the reluctance of mortgage-lending institutions to make forward commitments had a significant adverse influence on March results. In addition, recent price increases were not sufficient to recover fully the higher costs of energy, raw materials, and labor."

Financial reports roundup

Sales revenues and percents of total company sales for the cement, concrete, and construction segments of 60 companies are listed in this survey of 1979 annual reports. Brief descriptions of the companies' major lines of business are given.

ALPHA PORTLAND INDUSTRIES, INC.

Cement & aggregates—net sales

	In millions	% of total sales
1979	\$101.904	42 %
1978	88.421	39.3
1977	75.811	37.4
1976	71.498	31
1975	55.417	31.4

Lines of business—production and sale of portland cement and construction aggregates from six cement and two aggregate plants; heavy construction, including tunnel construction, pile driving, and subsurface construction; and mechanical contracting.

The annual report notes that cement shipments were at a record high in 1979. Revenues were 15% higher in 1979 compared with 1978, and costs and expenses were about 11% greater in 1979 than in 1978.

AMERICAN AGGREGATES CORP.

(year ended March 31)

Aggregate business—net sales

	In millions	% of total sales
1979	\$52.388	89.7%
1978	41.013	89.9
1977	31.217	85.

Lines of business—the corporation is engaged primarily in the business of mining, processing, and selling sand and gravel and in processing and selling blast furnace slag for road aggregate and other commercial uses. Its consolidated subsidiaries are engaged in hydraulic dredging of inland waterways and in the manufacturing and sale of precast concrete products and prestressed concrete building units. Total net sales for the fiscal year ended March 31, 1980, amounted to \$65.880 million, up 13% over the \$58.420 million of fiscal 1979.

ARMCO INC.

Mineral resources—net sales

	In millions	% of total sales
1979	\$78.3	1.6%
1978	83.4	1.9
1977	62.8	1.8
1976	97.5	3.1
1975	69.8	2.3

Lines of business—oil field equipment and production; fabricated metal products; carbon steel products; specialty steel products; mineral resources (coal, iron ore, limestone, lime); industrial products and services; and financial services. Limestone mining and lime production are conducted at the Black River Mining Co. quarry and plant at Carn-town, Ky.

ARUNDEL CORP., THE

Construction materials—net sales

	In millions	% of total sales
1979	\$41.240	49.2%
1978	34.041	43.6
1977	31.091	53.1
1976	27.025	50.8
1975	25.417	61.8

Lines of business—construction materials production (sand, gravel, stone, blast furnace slag aggregates, ready-mixed concrete, prestressed/precast concrete; brick); construction; and real estate.

ASARCO INC.

Lines of business—production of nonferrous metals, including silver, copper, lead, zinc; production of nonmetallic minerals, including asbestos, coal, ilmenite, and limestone; smelting of nonferrous metal ores; scrap metal recycling; specialty chemical production; solar energy systems; and asbestos-cement pipe manufacture.

American Limestone Co., a division of Asarco, markets in seven states, mostly in the Southeast, the products from five stone quarries, two sand and gravel plants, one transit-mix concrete plant, and three limestone plants which process the by-product limestone from Asarco's Tennessee zinc mines.

BETHLEHEM STEEL CORP.

Lines of business—Bethlehem is an integrated steel producer engaged primarily in the manufacture and sale of steel and steel products. It is the second largest steel producer in the United States. The company also engages in marine construction, including the building and repairing of ships and the building of mobile offshore oil drilling platforms and in the manufacture of plastic products.

Incidental to its steel business, Bethlehem is engaged in the mining of ore and coal and the quarrying of limestone chiefly for its own use; the transportation of ore, coal, and limestone on the Great Lakes, and of bulk commodities between foreign ports and the United States; and the operation of short line railroads in the vicinities of certain of its plants.

Mineral products include iron ore, manganese ore, metallurgical and industrial bituminous coal, anthracite, lime, metallurgical, commercial, and agricultural limestone, slag, mineral wool, asphaltic concrete, copper concentrates, bentonite, and rutile. In 1979, 674 million tons of limestone were produced.

BLOUNT, INC.

(fiscal year ended Feb. 28)

Construction segment—sales & revenues

	In millions	% of total sales
1979	\$322.774	75.7%
1978	295.225	78.1
1977	267.249	80.3
1976	270.772	83.1
1975	285.474	84.9

As noted in the first quarter report, for the 12-month period ended March 31, 1980, net sales for construction materials amounted to \$319.542 million, compared with \$298.662 million for the 1979 period.

Lines of business—construction and agribusiness products and services. The aggregate division of the construction segment mines and processes sand, gravel, and limestone at four locations in Michigan.

CALIFORNIA PORTLAND CEMENT CO.

(year ended April 30)

Cement Division—revenues

	In millions	% of total revenues
1979	\$152.4	76.6%
1978	122.8	82.5
1977	92	82
1976	70.6	74.7
1975	58.8	70.5

Concrete & Stone Products Division—revenues

	In millions	% of total revenues
1979	\$ 38.8	19.5%
1978	22.8	15.3
1977	19.4	17.3
1976	21.6	22.8
1975	22.7	27.2

Lines of business—portland cement, coal, prestressed/precast concrete products, ready-mixed concrete, aggregates, limestone, oil, and natural gas.

The company operates two cement plants in southern California and one in Arizona. Combined annual capacity is 3 million tons. The cement division recorded new highs in both revenues and income for the third successive year.

(continued on page 149)

CANADA CEMENT LAFARGE LTD.

Sales

	In millions
1979	\$618.3
1978	535.3
1977	439.7
1976	384.8
1975	398.9

Lines of business—cement, aggregates, ready-mixed concrete, precast/prestressed concrete, concrete block, concrete pipe, asphalt, and construction.

In Canada, the company operates nine cement manufacturing plants having a rated capacity of 5.3 million metric tons. Citadel Cement Corp., a subsidiary, operates two cement plants in Alabama that have a rated capacity of about 1 million tpy. Other construction minerals operations are located in Canada.

CECO CORP., THE

Concrete forming services & products—net sales

	In millions	% of total sales
1979	\$103.5	24.7%
1978	82.2	24.1
1977	63.2	23.7
1976	62.9	25.3
1975	71.7	27.7

Lines of business—concrete forming services and products (installation of forming work for concrete buildings; manufacture of concrete pipe, block, and prestressed concrete sections); steel mill products; fabricated building products; and door products.

CONROCK CO.

Total revenues

	In millions
1979	\$139.358
1978	111.684
1977	97.730
1976	81.745
1975	72.927

Lines of business—the company is engaged in multi-unit aggregate and ready-mixed concrete operations in southern California. Products include rock, sand, and gravel for concrete aggregates; rock, sand, and gravel for special commercial uses; ready-mixed concrete; sand for plastering, gunite, and masonry; crushed rock for streets, highways, and asphaltic concrete; road construction base; rock dust for streets, highways, and asphaltic concrete; cobbles for river work and flood control work; ballast for railroads; asphaltic slurry seal-coat mixes; and nursery sands for golf courses and landscaping.

CONTINENTAL MATERIALS CORP.

Minerals and mineral products—revenues

	In millions	% of total revenues
1979	\$13.173	40.6%
1978	10.644	39.3
1977	7.940	34.2
1976	5.179	29.7
1975	4.319	31.6

Lines of business—minerals and mineral products segment: production of sand, gravel, limestone, ready-mixed concrete, copper ore. Building components and supply segment: manufacture of heating, cooling, and ventilation equipment and of hollow metal doors.

DENISON MINES LTD.

(corporate headquarters:
Toronto, Ontario, Canada)

Cement & cement products—sales

	In millions	% of total sales
1979	\$88.32	28.4%
1978	78.36	29
1977	64.64	32.5
1976	54.85	34.3

Minerals (uranium, limestone products, oil & gas)—sales

	In millions	% of total sales
1979	\$222.19	71.6%
1978	191.53	71
1977	134.42	61.5

Lines of business—production of uranium, oil, gas, potash, coal, cement, limestone, lime, kaolin, silica sand, feldspar, etc. Construction minerals subsidiaries include Lake Ontario Cement Ltd.; Aetna Cement Corp.; Primeau Argo Block Co. Ltd.; Rochester Portland Cement Corp.; and Reiss Lime Co. of Canada, Ltd.

DRAVO CORP.

Natural resources segment—revenues

	In millions	% of total revenues
1979	\$214.5	21.6%
1978	164.1	17.1
1977	130.6	13.8
1976	107.9	13.3
1975	92.7	11.3

Lines of business—Dravo operates within five segments: engineering construction, manufacturing, natural resources, equipment, and transportation. The natural resources segment is carried out by two units—the Pittsburgh, Pa.-based Natural Resources Group and Southern Industries Corp., headquartered in Mobile, Ala. Southern Industries merged with Dravo in June 1979.

The Natural Resources Group's products include sand, gravel, lime, limestone, ready-mixed con-

crete, concrete block, coal, and power plant scrubber sludge stabilizer. Southern Industries produces shell, sand, gravel, slag, stone, ready-mixed concrete, asphaltic concrete, concrete block, lime, poultry feed supplement, and filler material for industrial rubber products.

ENGELHARD MINERALS & CHEMICAL CORP.

Nonmetallic minerals—revenues

	In millions	% of total revenues
1979	\$177.0	1 %
1978	155.4	1.5
1977	130.9	1.8
1976	107.4	1.6
1975	80.9	1.4

Lines of business—marketing of ferrous and nonferrous minerals and metals, ferro-alloys, crude oil and oil products, fertilizers, petrochemicals, sugar, grains and other raw materials; refining of precious metals and manufacturing of products containing precious metals; mining and processing of nonmetallic minerals, including kaolin, attapulgite, bauxite, and talc.

FLORIDA ROCK INDUSTRIES, INC.

(year ended September 30)

Construction aggregates—net sales

	In millions	% of total sales
1979	\$52.631	32.2%
1978	37.176	30.9
1977	26.565	28.1
1976	18.825	22.7
1975	20.875	24

Concrete products—net sales

	In millions	% of total sales
1979	\$88.995	54.4%
1978	65.224	54.1
1977	53.196	56.3
1976	51.188	61.8
1975	53.419	61.5

Lines of business—the company has three major segments: construction aggregates, concrete products, and transportation. All operate within the United States. The construction aggregates segment principally produces and sells sand and crushed stone. The concrete products segment manufactures and markets ready mixed concrete and concrete block and markets other building materials. The transportation segment is operated through a wholly owned subsidiary which is an ICC carrier engaged in hauling liquid and dry bulk commodities.

*See Lake Ontario Cement Ltd. data capsule.

GENERAL DYNAMICS CORP.

**Material Service and Resources Group—
net sales**

	In millions	% of total sales
1979	\$577	14.2%
1978	471	14.7
1977	437	15.1
1976	421	16.5
1975	355	16.4

Lines of business—military and commercial aircraft; missiles and space systems; commercial ships; building minerals and products; telecommunications and data products, etc.

The building materials and resources group includes these company segments: Material Service Corp. (stone, sand, gravel, ready-mixed concrete, concrete pipe); Marblehead Lime Co. (high-calcium lime, dolomitic lime); Freeman United Coal Mining Co.; and Asbestos Corp. Ltd.

Early this year, General Dynamics entered into an agreement in principle to purchase the

cement division of the National Gypsum Co. The cement division includes mills at Alpena, Mich., with a 2.5 million tpy capacity, a 935,000 tpy facility at Evansville, Pa., and related storage and distribution facilities. Record sales in 1979 were reported for Material Service and Marblehead Lime.

GENERAL PORTLAND INC.

Cement & related products—net sales

	In millions	% of total sales
1979	\$274.3*	99 %
1978	240.1*	97.6
1977	197.6	99.5
1976	180.6	99.8
1975	173.5	99.5

***Net sales—by product (percent)**

	1979	1978
Cement	86%	85%
Ready-mixed concrete	7	7
Aggregate	5	4
Fly ash	1	1
Total cement & related products	99	97
Real estate	1	3
Total net sales	100%	100%

Lines of business—General Portland operates eight cement plants, two each in Texas and Florida, and one each in Ohio, Tennessee, Kansas, and California. A ninth plant is under construction in central Texas. The company also markets construction aggregates in Texas and Louisiana, fly ash in Texas, and ready-mixed concrete in the Dallas/Fort Worth area. Real estate activities are conducted in Texas.

GENERAL SHALE PRODUCTS CORP.

Net sales

	In millions
1979	\$61.751
1978	66.630
1977	54.120
1976	45.352
1975	36.440

Lines of business—face brick, concrete block, ready-mixed concrete, masonry and concrete sand, and burned lightweight aggre-

gate. The company operates 24 plants in seven states (Alabama, Arkansas, Georgia, Indiana, Kentucky, Tennessee, and Virginia).

GENSTAR LIMITED

Building materials (does not include cement; see below)—revenues

	In millions of Canadian dollars	% of total revenues
1979	\$288.6	22.8%
1978	250.7	21.9
1977	239.5	24.4
1976	222.4	27.1
1975	192.3	28.1

Cement—revenues

	In millions of Canadian dollars	% of total revenues
1979	\$179	14.2%
1978	158	13.8
1977	133.6	13.6
1976	127.9	15.6
1975	111.4	16.3

Lines of business—cement; building materials (ready-mixed concrete, concrete block, concrete pipe, sand, gravel, classified aggregates, lightweight aggregates, precast concrete structural and architectural components, precast concrete railway ties, gypsum wallboard, resources recovered from solid waste, and construction asphalt); housing and land development; construction; marine activities; and financial services and investments.

(Note: The Flintkote Co. became a wholly owned subsidiary of Genstar in February 1980. Genstar had acquired a 21.5% interest in Flintkote during 1978. Flintkote's lines of business are outlined in the corporate re-alignment section of this report. For Flintkote's net sales data for 1974-8, see Pit & Quarry, July 1979, pages 162, 164)

GEORGIA-PACIFIC CORP.

Gypsum—net sales

	In million	% of total sales
1979	\$229	4%
1978	203	5
1977	160	4
1976	117	4
1975	95	4

Lines of business—building products, including plywood and specialties, lumber, gypsum, roofing, metal products, etc.; pulp, paper, and paperboard; chemical and plastic products; furniture; stationery products; and industrial gypsum, etc.

GIANT PORTLAND & MASONRY CEMENT CO.

Net sales

	In millions
1979	\$30.212
1978	28.284
1977	20.428
1976	18.348
1975	17.688

Lines of business—production of portland and masonry cements at 855,000-tpy plant in South Carolina.

GIFFORD-HILL & CO., INC.

Construction materials—net sales

	In millions	% of total sales
1979*	\$221.275**	54.6%
1978*	195.047	57.3
1977	157.616	53.8
1976	128.524	48.5
1975	124.495	53.9

*Net sales—by product segments

	In millions	1979	1978
Cement	\$ 52.158	\$ 43.280	
Concrete	80.178	72.009	
Aggregates	40.891	33.036	
Concrete Pipe	34.041	33.785	
Prestress***	14.007	12.937	
Total	\$221.275	\$195.047	

**Gifford-Hill acquired Amcord, Inc. in December 1979. Since acquisition of Amcord occurred late in the year, their results are not included here.

***Prestress operations sold in late 1979 and early 1980.

Lines of business—construction materials, metal building products, irrigation products, and transportation, all operated within the United States. Construction materials include cement, sand, gravel, crushed stone, slag, fly ash, ready-mixed concrete, prestressed/precast concrete members, concrete pipe, concrete chemicals, asphalt, and fly ash.

GULF + WESTERN INDUSTRIES, INC.

(year ended July 31)

Building products—net sales

	In millions	% of total sales
1979	\$136	2.57%
1978	108	2.51
1977	89	2.44

Cement—net sales

	In millions	% of total sales
1979	\$148	2.80%
1978	140	3.25
1977	123	3.37

Lines of business—Gulf + Western activities are reported in the following business segments: leisure time; consumer and agricultural products; manufacturing;

apparel products; automotive replacement parts; paper and building products; natural resources; and financial services. Main products of the Natural Resources group are portland and masonry cement, zinc metal and zinc pigments, titanium dioxide and other chemicals, and metallurgical coal. Cement operations are conducted by G + W's Marquette Co., operating 10 plants in nine states.

The Paper and Building Products Group's products include pulp, paper, and paperboard; towels, tissues, and food service disposables; folding cartons; matches; and building products. The building products segment encompasses aggregates (rock, sand, and gravel), ready-mixed concrete, and concrete-forming equipment and accessories.

IDEAL BASIC INDUSTRIES, INC.

Cement Division—sales & operating revenues

	In millions	% of total sales & operating revenues
1979	\$355.351	81.6%
1978	349.627	85.3
1977	288.848	83.7
1976	243.365	82
1975	214.841	80

Lines of business—production of portland cement; mining and concentration of potash. The company operates 13 gray cement plants and one white cement plant. Total annual capacity is currently rated at 6.48 million tons of cement. The cement division also operates a sand and gravel plant in south Texas and a limestone quarry in British Columbia.

INDIANA LESTONE CO., INC.

(year ended Nov. 30)

Net sales

	In millions
1979	\$5.115
1978	5.265
1977	4.063
1976	5.167
1975	3.094

Lines of business—the company quarries and fabricates Indiana limestone for use as a building material. By-product stone is sold for breakwater and shoreline protection in the Great Lakes area. The percentages of dollar sales of the various limestone

products in 1979 are block stone (raw material), 13%; sawed stone (semi-finished), 16%; cut stone (finished), 62%; breakwater, 5%; other, 4%.

INLAND STEEL CO.

Lines of business—the company has operations in four business segments: integrated steel, steel service centers, steel-related operations, and shelter. Integrated steel operations include the manufacture and sale of steel mill products, and the mining, quarrying, and processing of iron ore, coal, and limestone used in steel-making. The limestone and dolomite properties of the company are located in the Upper

Peninsula of Michigan. A wide range of stone products is produced at the rate of approximately 3.4 million gross tons per year.

IU INTERNATIONAL CORP.

Industrial products & services—revenues

	In millions	% of total revenues
1979	\$284,550	10.7%
1978	242,257	9.9
1977	224,118	10.5
1976	177,068	9.7
1975	222,512	13.2

Lines of business—principal segments are land transportation; utility services; industrial products and services; distribution services; agribusiness; and other operations (silver mining, telephone answering services, real

estate development, etc.). The industrial products and services group includes International Mill Service; IU Conversion Systems, Inc.; G. & W. H. Corson, Inc.; Southwest Fabricating & Welding Co.; and Hills-McCanna Co. International Mill Service processes slag and reclaims scrap metals for steel mills in 16 countries. IU Conversion Systems designs, engineers, constructs, and operates facilities that convert pollutants from coal-fired power plants and other industrial wastes into stable materials for landfill and other uses. Corson quarries limestone and produces lime for metallurgical and construction markets, pollution control, and other applications. Southwest Fabricating is a leading pipe fabricator serving the power and processing industries. Hills-McCanna makes valves for industrial uses.

The next 10 years: excerpts from "A Year of Bold Action and Record Profit"

Lone Star Industries, Inc.
1979 annual report

"What is civilization without cement? Each generation determines its own needs, sets its own priorities; but civilization and living standards move relentlessly forward. Construction in America, commanding some 10% of the gross national product and indirectly influencing at least another 10%, is currently supported by \$230 billion in spending, provides employment for an estimated 10 million people, and is absolutely dependent on the relatively small cement and aggregates industries. Our nation's future will require more and more of these basic products, for which no economic substitutes are even remotely in sight."

"The U.S. cement industry has arrived at a new era of great promise and opportunity—an era of new dynamics:

- *pent-up demand* for safer highways, bridges and airport runways, better water and sewage treatment systems, smoother railroad track-beds and many other needs.

- *limited supply*, caused by a prolonged period of inadequate new investment in the cement industry and aggravated by an increasing number of retirements of old and inefficient plants.

- *new capital formation goals*, achievable by those companies that can generate funds internally and find innovative ways to access capital markets.

- *changing distribution patterns*, with rail and barge shipments challenging the high costs of truck hauling and ocean shipping.

- *fuel-saving technologies* to lower costs dramatically in cement manufacture through preheaters, precalciners, roller mills, and other innovations.

- *and perhaps above all, the dynamics of public opinion*, rallying against the economic effects of over-regulation and excessive environmentalism.

"How do we see the cement industry in the U.S. for the next ten years?

First—1980 will be a good year.

Second—From 1981 to 1986 every ton of U.S.-produced cement will be utilized in our domestic market.

Third—The worldwide squeeze on oil and energy will change world trade patterns, including cement.

Fourth—From 1981 to 1989, a great number of outdated high-Btu-using cement plants will be shut down.

Fifth—After 1990, only new plants, those which have been converted to the new technology, and only a few others, will survive."

INTERPACE CORP.

Concrete pipe—net sales

	In millions	% of total sales
1979	\$ 81.9	25%
1978	91.4	31
1977	81.8	44
1976	102.1	53
1975	119.5	59

Lines of business—construction and building products, including porcelain insulators; pumps; concrete pipe; heating, ventilating, air conditioning, and plumbing products; and structural brick.

JEFFERSON CORP.

(for fiscal year ended March 31)

Concrete & adhesive operations—net sales

	In millions	% of net sales	Concrete operations	Adhesive operations
1979	\$19.03	77.5%	22.5%	
1978	16.58	70.4	29.6	
1977	17.82	75.4	24.6	
1976	21.15	82.9	17.1	
1975	21.38	87	13	

(For the 12 months ended December 31, the 1979 net sales totaled \$22.63 million; 1978 sales amounted to \$18.31 million.)

Lines of business—concrete operations (consisting of production of ready-mixed concrete, precast/prestressed concrete, sand, gravel); adhesive operations (manufacture, sale, and application of adhesives, coatings, and binders for use in concrete construction); and life and health insurance.

JOHNS-MANVILLE CORP.

Lines of business—fiber glass products; forest products; pipe products and systems; roofing products; non-fiber glass insulations; asbestos fiber; and industrial and specialty products and services. J-M mines asbestos fiber, diatomaceous earth, and perlite. Perlite is used in industrial roof insulations, asbestos in asbestos-cement pipe, roofing, friction materials, and specialty products; diatomite in filter aids and fillers. Total revenues were \$2.297 billion in 1979 and \$1.677 billion in 1978.

JUSTIN INDUSTRIES, INC.

Building materials—net sales

	In millions	% of total sales
1979	\$131.060	71%
1978	127.543	75
1977	105.610	73
1976	64.268	65
1975	39.987	58

Lines of business—building materials (brick, precast and prestressed concrete, concrete block, lightweight aggregate, and architectural stone); manufacture of boots, belts, and other leather goods; fabrication of ceramic cooling towers; and publishing. Building material plants are located in Arkansas, Kansas, Kentucky, Louisiana, North Carolina, Oklahoma, Tennessee, and Texas.

KAISER ALUMINUM & CHEMICAL CORP.

Refractories Division—net sales

	In millions	% of total sales
1979	\$197.4	6.8%
1978	180.3	7.3
1977	152.8	6.8
1976	134.4	7.3
1975	124.2	7.9

Lines of business—the corporation operates principally in six business segments: aluminum, agricultural chemicals, industrial chemicals, refractories, trading, and real estate. The refractories group includes production of agricultural dolomite; architectural and landscaping dolomite sand and stone; refractory brick and specialties; deadburned dolomite; clay/alumina brick and specialties; fireclay; insulating refractories; magnesium hydroxide; periclase/magnesite; and silica refractories.

KAISER CEMENT CORP.

Cement & clinker—net sales & operating revenue

	In millions	% of total revenues
1979	\$238.180	91.76%
1978	209.169	91.73
1977	160.751	90.59

Concrete, aggregates, & other—net sales & operating revenue

	In millions	% of total revenues
1979	\$21.397	8.24%
1978	18.859	8.27
1977	16.701	9.41

Lines of business—cement, ready-mixed concrete, sand, gravel, crushed rock, coal, and

natural gas.

Kaiser's five cement plants in the United States are located in California, Texas, Hawaii, and Montana, and have a rated annual capacity of 4.23 million short tons. Three aggregate plants, with a total rated annual capacity of 5.4 million short tons, are located in California, Washington, and Texas. Ready-mixed concrete plants are located in Seattle, Wash. (200,000 cu. yd., annual capacity), Tacoma, Wash. (200,000 cu. yd.), and Austin, Tex. where two plants produce a

combined annual capacity of 300,000 cu. yd.

KEYSTONE PORTLAND CEMENT CO.

Sales, less discounts in millions	
1979	\$22.436
1978	21.097
1977	16.674
1976	15.737
1975	15.192

Lines of business—the company produces portland and masonry cement at its plant in Bath, Pa. Crushed limestone is supplied by an operating division. Another operating division mines bituminous coal for use in fueling the cement kilns.

KOPPERS CO., INC.

Road Materials Group—net sales		
	In millions	% of total sales
1979	\$454.1	24.8%
1978	304.1	19.2
1977	174.1	12.8
1976	134.7	11.3
1975	111.8	10.4

Lines of business—organic materials (phthalic anhydride, creosote, alkyd resins, etc.); road materials (sand, gravel, granite, limestone, trap rock, sandstone, slag, ready-mixed concrete, bituminous concrete, and steel wire mesh); forest products (lumber); engineered metal products; and engineering and construction.

Aggregate pits and quarries in the Road Materials group are located in California, Georgia, Indiana, Kansas, Kentucky, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, and Virginia. Six facilities in the Southeast and Southwest produce and distribute welded wire fabric and other concrete-reinforcing and forming accessories. More than 90% of sales of the Road Materials group are from aggregates (crushed stone, sand, gravel, and slag), bituminous concrete, ready-mixed concrete, and paving services. The balance is from bituminous paving materials (road asphalt and asphalt emulsions) and from steel wire mesh.

LAKE ONTARIO CEMENT LTD (CANADA)

Sales in millions	
1979	\$88.317
1978	78.364
1977	64.641
1976	54.845
1975	41.833

Lines of business—cement milling and production in Ontario (Canada), western New York state and Michigan; ready-mixed concrete, concrete block and brick, and aggregate businesses in Ontario.

Lake Ontario Cement manufactures clinker and cement at its Picton, Ont. plant and grinds clinker into cement through its Michigan subsidiary, Aetna Cement Corp. Cement is sold in Ontario, western New York state and Michigan. The Premier Concrete Products Division has ready-mixed concrete operations at Windsor, Toronto, Hamilton, Oshawa and Ottawa, a concrete block plant at Windsor, and an aggregate facility at Alton, Ont. On January 7, 1980, the company acquired the minority interest of its subsidiary company, Primeau Argo Block Co. Ltd. This subsidiary manufactures concrete block and concrete brick in three plants in the metropolitan Toronto area.

LONE STAR INDUSTRIES, INC.

Cement—net sales (domestic)		
	In millions	% of total sales
1979	\$290	36.6%
1978	241.5	37.9
1977	185	40.6
1976	143.4	36.3
1975	121.4	33.1

Construction aggregates—net sales		
	In millions	% of total sales
1979	\$127.2	16.1%
1978	105	16.5
1977	75.8	16.7
1976	71	18
1975	69.8	19

Concrete & concrete products—net sales (domestic)		
	In millions	% of total sales
1979	\$201.5	25.4%
1978	147.1	23.1
1977	85.2	18.7
1976	71.5	18.1
1975	70.6	19.2

Lines of business—cement and related products, which include the production and distribution of portland, masonry, and other types of cement, and the manufacture and distribution of ready-mixed concrete and concrete products; mining, processing, and distribution of sand, gravel, and crushed stone; real estate operations, wholesale lumber opera-

tions, and the sale of other construction materials.

LOUISVILLE CEMENT CO.

Sales, less discounts in millions	
1979	\$90.022
1978	75.607
1977	70.799
1976	69.747
1975	63.179

Lines of business—Louisville Cement Co. is engaged in the manufacture and sale of portland and other types of cements. The company operates three cement plants. Two are located in Indiana and one in Pennsylvania, with a combined annual capacity of 2.2 million tons. The company markets its products in 13 states extending from the Midwest to the South Central states along the East Coast. Its products are distributed through a network of nine terminals and warehouses in addition to the three plants.

MARTIN MARIETTA CORP.

Cement—net sales		
	In millions	% of total sales
1979	\$197.7	9.6%
1978	181.2	10.3
1977	154.4	10.7
1976	143.7	11.9
1975	125.8	11.9

Aggregates—net sales		
	In millions	% of total sales
1979	\$176.9	8.6%
1978	157.7	9
1977	130.7	9.1
1976	116.1	9.6
1975	107.5	10.2

Lines of business—cement; aggregates (crushed stone, construction sand, gravel, industrial sand); chemicals; aluminum; aerospace; and investments.

Sales and contribution to earnings for Martin Marietta Cement and Martin Marietta Aggregates reached record levels in 1979. Cement shipments totaled 4.3 million tons in 1979, just about the same quantity as in 1978. Shipments of crushed stone, construction sand, gravel, and industrial sand exceeded 50 million tons, a slight decline from 1978.

The company's industrial sand operations, heretofore entirely in the Midwest, were extended to South Carolina, Texas, California, and Idaho with the acquisition of Wedron Silica Co., a producer of foundry sands and

melting sands for amber and green glass. Martin Marietta's industrial sand plants have an annual capacity of approximately 4 million tons for customers primarily in the glass, foundry, ceramic, and plastics industries.

MCDONOUGH CO.

(year ended January 31)

Building Materials Group—net sales

	In millions	% of total sales
1980	\$84.9	18.8%
1979	73.8	17.7
1978	68.6	19.9
1977	55.6	18.2
1976	47.1	16.6

Lines of business—McDonough is a multi-product line company operating in three basic industries: building materials, footwear, and hand tools. The building materials group consists of the Gulf Coast Portland Cement and the Houston Shell & Concrete Divisions, which produce cement and ready-mixed concrete for the metropolitan Houston market; and the Ohio River Division, which produces and markets sand and gravel in central Ohio and West Virginia.

MEDUSA CORP.

(Subsidiary of Crane Co.)

Construction materials—net sales

	In millions	% of total sales
1979	\$252.336	88.6%
1978	244.000	84.9
1977	216.755	89.8

Lines of business—the company has two major business segments: construction materials and construction services. The construction materials segment principally includes production and sale of cement products, stone, sand, gravel, and asphalt. The construction services segment includes highway safety construction and asphalt paving.

MICHIGAN GENERAL CORP.

Contracting group—net sales

	In millions	% of total sales
1979	\$19.7	8.7%
1978	19.5	9.7
1977	15.3	8
1976	13	7.6
1975	13.8	9

Architectural concrete products % of Contracting Group net sales

1979	64.8%
1978	64.4
1977	71.4
1976	73.3
1975	70.9

Lines of business—Michigan General is comprised of 19 operating entities structured into five operating groups: highway safety; manufacturing; contracting; consumer products; and retailing. The contracting group manufactures concrete pipe, concrete blocks, cribbing for retaining walls, prestressed bridge beams for highway construction, precast and prestressed floor and roof systems, and other structural products. The group also produces architectural precast concrete wall panels, precast/prestressed structural components, concrete masonry units, concrete stave industrial and farm silos, and related products; provides commercial and industrial painting and decorating services; and sells paint, wall coverings, and related items.

MONOLITH PORTLAND CEMENT CO.

Portland cement—net sales

	In millions	% of total sales
1979	\$49.962	83.5%
1978	32.802	79.8
1977	30.512	82.2
1976	24.920	83.7
1975	22.106	85.6

Ready-mixed concrete, asphalt, and rock aggregates—net sales

	In millions	% of total sales
1979	\$9.858	16.5%
1978	8.291	20.2
1977	6.593	17.8
1976	4.869	16.3
1975	3.707	14.4

Lines of business—the company produces portland cement, ready-mixed concrete, asphalt, rock, and sand. Monolith operates a cement plant in California and one in Wyoming. Ready-mixed concrete plants are in California and Wyoming; an asphalt plant and aggregate plant are in California.

MOORE McCORMACK RESOURCES, INC.

CEMENT, CONCRETE PRODUCTS, AND AGGREGATES OPERATIONS

The company acquired Florida Mining & Materials Corp. (a cement, concrete products, and aggregates producer) on July 1, 1979. Sales and revenues for this segment for the half year amounted to \$64.9 million dollars. The following tabulation for Florida Mining & Materials Corp. revenues from 1976 through 1978 is repeated from the July 1979 issue of Pit & Quarry.

FLORIDA MINING & MATERIALS CORP.

Ready-mixed concrete & concrete block—revenues

	In millions	% of total revenues
1978	\$52.774	65.8%
1977	34.644	64.3
1976	26.629	64.8

Aggregates—revenues

	In millions	% of total revenues
1978	\$5.409	6.8%
1977	3.563	6.6
1976	3.055	7.5

Prestressed and precast concrete—revenues

	In millions	% of total revenues
1978	\$10.823	13.5%
1977	7.436	13.8
1976	6.988	17

Cement—revenues

	In millions	% of total revenues
1978	\$10.031	12.5%
1977	7.317	13.6
1976	3.426	8.3

Lines of business—the principal segments of Moore McCormack Resources business are iron ore; coal; cement, concrete products and aggregates; bulk transportation; and cargo liners. The cement, aggregates, and concrete products segment includes the production of ready-mixed concrete, concrete block, portland cement, aggregates, and prestressed and architectural concrete structures (all acquired from Florida Mining & Materials Corp. in 1979), and the quarrying and processing of limestone in Ohio and Pennsylvania.

NATIONAL GYPSUM CO.

Gypsum & related products—net sales

	In millions	% of total sales
1979	\$391	38.4%
1978	342	37.6
1977	267	35.7
1976	210	34.2
1975	171	32

Cement—net sales*

	In millions	% of total sales
1979	\$164	16.1%
1978	145	15.9
1977	114	15.2
1976	97	15.8
1975	93	17.4

*Cement division sold to General Dynamics Corp. in 1979.

Lines of business—gypsum and related products; wall and floor coverings; glass and metal products; specialty and other products such as tiles, exterior siding, lime, limestone, and manufactured housing.

NORTHWESTERN STATES PORTLAND CEMENT CO.

(year ended Nov. 30)

Net sales	
	In millions
1979	\$40.696
1978	43.097
1977	35.477
1976	29.959
1975	22.755

Lines of business—the company manufactures cement in its plant in Mason City, Iowa, and markets the product in an area encompassing parts of the states of Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin.

OGLEBAY NORTON CO.

Minerals Operations—sales and revenues

	In millions	% of total revenues
1979	\$19.451	10 %
1978	15.270	9.3
1977	13.653	11.9
1976	10.146	8.7
1975	6.736	6.9

Lines of business—operations cover minerals, transportation, and manufacturing. The company is engaged in the production of

iron ore, coal quartzite, silica sand, refractory and insulation materials, ferrous and non-ferrous products. Quartzite is produced by its Central Silica Co. subsidiary in two plants in Ohio. Fracture sand for oil and gas well treatment is processed in Texas by its subsidiary, Texas Mining Co. Silica flour is made at Texas and California locations. The minerals operations segment covers quartzite sand and fracture sand production, oil and gas production, and fluorspar briquette manufacture.

OREGON PORTLAND CEMENT CO.

Net sales	
	In millions
1979	\$52.592
1978	45.600
1977	37.089
1976	33.569
1975	26.195

Lines of business—the company operates four cement plants, three in Oregon and one in Idaho and also is a producer of agricultural and chemical limestone products. Products are marketed in Oregon, Idaho, and Wash-

ington, plus in parts of Utah, Nevada, Wyoming, and Montana.

PENN VIRGINIA CORP.

Industrial minerals—operating revenue		
	In millions	% of total revenue
1979	\$9.552	17.8%
1978	9.376	23.7
1977	8.724	24.1
1976	6.894	24.2
1975	6.145	34

Lines of business—coal land operations; equipment manufacturing; investments; and industrial minerals. The industrial minerals operations cover limestone production operations in New Jersey and Tennessee, lime operations in Tennessee, and fly ash pozzolan marketing in Ohio.

H. K. PORTER CO., INC.

Cement—net sales		
	In millions	% of total sales
1979	\$82.964	12.9%
1978	75.497	13.8
1977	39.415	8.2

Lines of business—the company operates in six principal areas: industrial products, electrical products, industrial distribu-

tion, steel, specialty metals, and cement. The cement segment started with the acquisition, in 1977, of Missouri Portland Cement Co.

PUERTO RICAN CEMENT CO., INC.

Cement and related products—net sales

	In millions	% of total sales
1979	\$57.104	90.2%
1978	57.804	95.5
1977	54.016	93
1976	53.448	95.4
1975	52.573	93.7

Lines of business—cement and related products, including portland cement and hydrated lime; multiwall paper bag manufacture; and real estate development.

RANGAIRE CORP.

(fiscal year ended July 31)

Quicklime & hydrated lime—net sales

	In millions	% of total sales
1979	\$17.198	21.3%
1978	16.086	21.5
1977	15.433	21.5
1976	14.784	23.1
1975	13.052	22.9

Limestone; contract mining; heavy media material—net sales

	In millions	% of total sales
1979	\$ 6.831	8.5%
1978	4.988	6.7
1977	5.546	7.7
1976	4.664	7.3
1975	2.695	4.7

Lines of business—Rangaire is a diversified company engaged in mining, minerals processing, and manufacturing. The company mines limestone and produces lime in Texas, Arkansas, and Virginia; processes magnetite ore in Virginia; operates a general contracting firm in Texas; and manufactures various products, including built-in kitchen appliances, fluorescent lighting fixtures, and range hoods, freezers, etc.

ST. LAWRENCE CEMENT CO. (Canada)

Cement—net sales

	In millions	% of total sales
1979	\$139	54%
1978	114	49
1977	85	43
1976	62	39
1975	62	35

Stone & building materials—net sales

	In millions	% of total sales
1979	\$ 52	20%
1978	42	18
1977	43	22
1976	39	24
1975	39	22

Ready-mixed concrete—net sales

	In millions	% of total sales
1979	\$ 48	19%
1978	43	19
1977	47	24
1976	47	30
1975	48	27

Lines of business—operation of cement plants, stone quarries, sand and gravel pits, ready-mixed concrete plants, concrete block plants, prestressed concrete plants, concrete pipe plants, building materials centers, fuel oil and lumber distribution centers, and asphalt plants. These activities are conducted in Quebec, Ontario, and New York.

SOUTHDOWN, INC.**Cement—revenues**

	In millions	% of total revenues
1979	\$172.650	79.4%
1978	144.714	63.3
1977	124.362	64.6
1976	99.078	55.4
1975	76.526	36.8

Lines of business—oil and gas production and cement manufacture. Southwestern Portland Cement Co., Southdown's cement subsidiary, operates plants in California, Ohio, and Texas.

TEXAS INDUSTRIES, INC.

(year ended May 31)

Concrete products—sales & revenues

	In millions	% of total revenues
1978	\$177.2	93.4%
1977	142.1	93.6
1976	127.4	91.2
1975	108.6	89.3

(Total sales and revenues for all business segments for the 12-month period ending in February 1980, \$271.925 million; 1979, \$222.296 million.)

Lines of business—concrete products segment includes cement, aggregates, ready-mix, concrete block and brick, concrete pipe, prestressed concrete products, and architectural precast panels. The construction operations segment includes highway construction contracting, hot-mix asphalt paving, masonry contracting, and concrete contracting.

UNITED STATES GYPSUM CO.**Gypsum products—net sales**

	In millions	% of total sales
1979	\$703.347	46 %
1978	620.763	44.4
1977	480.494	40.8
1976	363.753	37.8
1975	295.687	36

Lines of business—product group sales by the company in 1979 were: gypsum products, 46%; refractories, 16%; metal products, 11%; wood fiber and mineral fiber, 10%; other products, 17%.

VULCAN MATERIALS CO.**Construction materials—net sales**

	In millions	% of total sales
1979	\$316.982	42%
1978	291.746	45
1977	229.130	45
1976	181.847	44
1975	165.166	46

Lines of business—Vulcan Materials is a multi-industry company operating in three basic businesses: construction aggregates production; chemicals manufacture, including chlorinated hydrocarbons and other industrial and agricultural chemicals; and production of secondary aluminum, detinned steel scrap, and tin chemicals.

In 1979, the Construction Materials group operated 91 facilities in 12 states for the production of aggregates. These aggregates consist of crushed stone (granite and limestone), slag, sand, and

gravel, expanded lightweight shale, dolomitic lime, and mineral filler. Crushed stone was produced at 80 plants.

The company also operates two sand and gravel plants, four slag plants, a lime plant, an expanded lightweight shale plant, a mineral filler plant, and a pulverized limestone plant. Other products and services include ready-mixed concrete and asphaltic concrete manufacture, truck sales and service, and miscellaneous materials processing activities.

WALTER, JIM CORP.

(for year ended Aug. 31)

Mineral & Fiber Products Group—sales & revenues		
	In millions	% of total revenues
1979	\$664.696	34.1%
1978	597.128	34.4
1977	510.599	35.5
1976	443.340	34.5
1975	404.758	32.2

Pipe Products Group—sales & revenues		
	In millions	% of total revenues
1979	\$309.005	15.9%
1978	299.537	17.3
1977	243.108	16.9
1976	220.423	17.1
1975	205.197	16.3

Stone Products Group—sales & revenues

	In millions	% of total revenues
1979	\$43.178	2.2%
1978	39.300	2.3
1977	36.141	2.5
1976	36.058	2.8
1975	43.300	3.5

Lines of business—homebuilding group; mineral and fiber products group (roof shingles, gypsum wallboard, vinyl siding, foam insulation, etc.); pipe products group (concrete, steel and cast iron pipe, valves, and hydrants); coal, iron, and chemicals group; metal and wood products group; stone products group (crushed and dimension stone); paper group; sugar operations; oil and gas operations; and savings and loan operations.

WHITEHALL CEMENT MANUFACTURING CO.

Sales, less discounts

	In millions
1979	\$20.362
1978	21.286
1977	14.852
1976	14.235
1975	13.259

Lines of business—the company is engaged in the production and sale of portland cement. Plant and office are located in Whitehall, Pa. ●

Data Sources

- "1980 U.S. Industrial Outlook for 200 industries with projections for 1984"—U.S. Dept. of Commerce, Industry & Trade Administration (January 1980).
- "Mineral Commodity Summaries—1980" (covers 1979 mineral industry data)—Bureau of Mines, U.S. Dept. of the Interior.
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- "Mineral Industry Surveys"—Bureau of Mines (various issuing times, depending on industry category).
- "1980 Dodge/Sweet's Construction Outlook"—McGraw-Hill Information Systems Co.
- "Construction Review," Dept. of Commerce.
- "U.S. Cement Consumption Forecast"—April 1980, Portland Cement Association.
- 1979 annual financial reports (see company capsule descriptions in this report).
- 1980 first quarter financial reports.
- *Engineering News-Record*—ENR materials prices.
- "Power plant ash—a growing raw material resource"—Sid Levine, PIR & QUARRY, April 1978.